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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,156	12/01/2003	Yasushi Ohki	117907	9390
25944	7590	11/04/2004		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER CRENSHAW, MARVIN P	
			ART UNIT 2854	PAPER NUMBER
DATE MAILED: 11/04/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/724,156

Applicant(s)

OHKI ET AL.

Examiner

Marvin P. Crenshaw

Art Unit

2854

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 27 is/are pending in the application.
- 4a) Of the above claim(s) 16 - 27 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 - 9 is/are allowed.
- 6) ☒ Claim(s) 1, 10 - 13 and 15 is/are rejected.
- 7) ☒ Claim(s) 2 - 4 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/01/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1 – 15, are drawn to a curl correction portion, classified in class 399, subclass 406.
- II. Claims 16 – 27, are drawn to sheet feeding, classified in class 271, subclass 9.01.

Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the features of the subcombination (sheet feeding portion and image forming portion) are not required for the patentability of claim 1. The subcombination has separate utility such as without a cutting portion, cooling portion or curl correcting portion.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

During a telephone conversation with Thomas J. Pardini on October 4, 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1 - 15. Affirmation of this election must be made by applicant in replying to this

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Office action. Claims 16 - 27 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Allowable Subject Matter

Claims 5 – 9 are allowed.

Claims 2 – 4 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

With respect to claim 2, the prior art does not teach or render obvious the total combination as claimed including an image forming apparatus wherein the cooling portion includes a flat region for retaining the sheet flat, and cools the recording sheet from at least one side surface thereof in the flat region and the curl correcting portion is a pressing member for retaining the recording sheet, which is transported to the flat region flat.

With respect to claim 3, the prior art does not teach or render obvious the total combination as claimed including An image forming apparatus the cooling portion is a heat sink including a flat region wherein the curl correcting portion includes multiple pressing rolls rotatable and press the recording sheet transported the flat region toward a flat region side and the multiple pressing rolls, a pressing roll arranged on a downstream side transport direction of the recording sheet has a rotational speed higher

than the rotational speed of a pressing roll arranged on an upstream side transport direction the recording sheet.

With respect to claim 4, the prior art does not teach or render obvious the total combination as claimed including an image forming apparatus wherein portion compose a belt fixing device, the belt fixing device including: a heating roll, tension roll, an endless fixing belt that rotatably stretched between the heating roll and the tension roll; a pressurizing rotating member that is press-contacted the heating roll through the endless fixing belt and a heat sink that contacts the flat region from an inside of the flat region, the flat region being arranged on a downstream side of the heating roll in a rotational direction of the endless fixing belt, wherein the recording sheet is brought into close contact with the endless fixing belt in a press-contact portion between the heating roll and pressurizing rotating member, and transported and cooled while being in close contact with the endless fixing belt.

With respect to claim 5, the prior art does not teach or render obvious the total combination as claimed including a selecting portion f or selecting between a first mode in which the recording sheet on which the toner image is formed is passed through only the first fixing portion and a second mode in which the recording sheet is passed through all of the first fixing portion, second fixing portion, the cooling portion, and the curl correcting portion.

With respect to claim 14, the prior art does not teach or render obvious the total combination as claimed including an image forming apparatus comprising a surface of the continuous recording sheet wound into a roll shape is coated with a thermoplastic

resin layer, the toner image formed the surface coated with the thermoplastic resin layer, the toner image is embedded into the thermoplastic resin layer by fixing and the toner image is fixed to an inside of the thermoplastic resin layer by cooling.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawada in view of Thomas and Ushiroji et al.

Sawada teaches an image forming apparatus (Fig. 1), comprising a roll receiving portion (74) for receiving a continuous recording sheet wound into shape, a sheet transporting portion (86) for transporting the continuous recording sheet from the receiving portion, a cutting portion (100) for cutting the continuous recording sheet that sent out, into a desired size, an image forming portion (See col. 6, lines 7 – 26) for forming a toner image on a recording sheet and a fixing portion (60) for fixing the toner

image to the recording sheet by heating the recording sheet on which the toner image is formed.

However, Sawada doesn't teach a cooling portion for cooling the recording sheet to which the toner image has been fixed. Thomas teaches a cooling portion (220) for cooling the recording sheet to which the toner image has been fixed. It would have been obvious to modify Sawada to have a cooling portion for cooling the recording sheet as taught by Thomas to provide an efficient means for cooling the recording sheet after fixation to prevent moisture from effecting the image.

However, Sawada as modified by Thomas don't teach a curl correcting portion for correcting a curl of the recording sheet when the recording sheet is cooled.

Ushiroji et al. teaches a curl correcting portion (See Abstract) for correcting a curl of the recording sheet when the recording sheet has the image fixated.

It would have been obvious to further modify Sawada to have a curl correcting portion as taught by Thomas to provide an efficient means for decurling the ends of the sheet after the image has been fixated due to the effects of moisture in the recording sheet.

With respect to claim 10, Sawada teaches an image forming apparatus (Fig. 1) wherein the toner image is formed on an outer surface of the continuous recording sheet wound into a roll shape (72).

With respect to claim 15, this claim does not add structure to define over the prior art. The proposed modification of Sawada would result in a residual curl facing outward, should there be one

Claims 11 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawada in view of Thomas and Ushiroji et al. as applied to claims 1 and 10 above, and further in view of Yamauchi et al.

Sawada as modified by Thomas and Ushiroji do not teach an image forming apparatus comprising a surface of the continuous recording sheet wound into a roll shape coated a thermoplastic resin layer and having a base of an original with a polyolefin resin layer.


Yamauchi et al. teaches a surface of the continuous recording sheet wound into a roll shape is coated with a thermoplastic resin layer (See Abstract) and the toner image (formed on the surface coated with the thermoplastic resin layer, the continuous recording sheet wound roll shape includes a base of an original with a polyolefin resin coated layer (See col. 1,lines 53 – 63) and a surface of the continuous recording sheet wound into a roll shape coated with a thermoplastic resin layer, toner image formed on the surface coated with the thermoplastic resin layer, the toner image is embedded into the thermoplastic resin layer by fixing. It would have been obvious to further modify Sawada to have an image forming apparatus comprising a surface of the continuous recording sheet wound into a roll shape coated a thermoplastic resin layer and having a base of an original with a polyolefin resin layer as taught by Yamauchi et al. so as to provide.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marvin P. Crenshaw whose telephone number is (571) 272-2158. The examiner can normally be reached on Monday - Thursday 7:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


MPC
November 1, 2004


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